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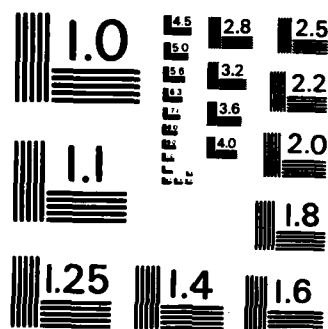
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Figure 1 displays a 5x15 grid of 75 small grayscale images. Each image shows a handwritten digit '4' on a black background. The images are arranged in a grid where the digit '4' is centered in each frame. As you move from left to right and top to bottom, the digit becomes increasingly blurred and distorted, representing a progression of a degradation process.



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AD-A160 926



A READERSHIP SURVEY FOR THE AIR FORCE
ENGINEERING AND SERVICES QUARTERLY
THESIS

Allen R. Miller
Captain, USAF

AFIT/GEM/LSH/85S-12

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Wright-Patterson Air Force Base, Ohio

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A READERSHIP SURVEY FOR THE AIR FORCE
ENGINEERING AND SERVICES QUARTERLY

THESIS

Presented to the Faculty of the School of Systems and Logistics
of the Air Force Institute of Technology
Air University
In Partial Fulfillment of the
Requirements for the Degree of
Master of Science in Engineering Management

Allen R. Miller, B.S.

Captain, USAF

September 1985

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Abstract

This research surveyed the intended audience of the Air Force Engineering and Services Quarterly for two purposes: (1) to validate the results of the in-house survey conducted semi-annually by the Quarterly, and (2) to determine ways to improve the quality and timeliness of the Quarterly. The results of the 843 returned surveys were analyzed using standard statistical procedures and compared to the results of the Fall 1984 in-house survey. The analysis indicated that although the two surveys measured slightly different populations, the management information produced by both surveys was similar. The research also generated over 70 suggestions for ways to improve the Quarterly. These suggestions were evaluated for feasibility and subsequently recommended changes in departments, article content, and distribution.

A READERSHIP SURVEY FOR THE AIR FORCE
ENGINEERING AND SERVICES QUARTERLY

I. Problem Statement

Nature of the Project

This research project was a survey of the intended readership of the Air Force Engineering and Services Quarterly, the professional journal of the Air Force Engineering and Services career field. As stated in the masthead, the journal "is an official, non-directive publication of Headquarters United States Air Force, published quarterly under provisions of chapter 12, AFR 5-1" (1:3). The objectives of the Engineering and Services Quarterly include: (1) transfer of technical and scientific knowledge in the Engineering and Services career field, (2) promotion of effective training and education, (3) attraction and retention of qualified personnel, (4) encouragement of professionalism and devotion to duty, (5) development of stewardship of Air Force facilities and support of Air Force personnel, and (6) promotion of teamwork among the Engineering and Services forces (1:3). In short, the Engineering and Services Quarterly is a major link tying the more than 6000 Air Force Engineering and Services

managers together. To accomplish their mission, the editorial staff must keep up with the changing needs of their audience.

The Engineering and Services Quarterly is required by AFR 5-1 (2:12-6) to take a semi-annual in-house survey of its readers. This same regulation requires that a separate, independent survey be conducted on the audience of larger Air Force periodicals (over \$100,000 annual cost) every three years and recommends the same for the others. Apparently, an independent survey has never been done for the Engineering and Services Quarterly, although they have conducted regular semi-annual in-house surveys (7). The in-house survey is bound into the journal with a pre-addressed tear-out response card. Response to the in-house surveys has been limited, with the majority of the responses coming from military officers in the rank of captain and above. This response appears to be skewed toward the more senior military members of the career field. This independent random survey of the intended audience helped provide information on the validity of the responses of those semi-annual in-house surveys. This project also provided additional information about how much of the Engineering and Services Quarterly is being read and how various groups of readers view the journal.

Mr. H. Perry Sullivan, editor of the Engineering and Services Quarterly, requested that this survey be

conducted because he believed that this additional information is very important. He will use it to help insure that the Engineering and Services Quarterly is meeting its objectives and the needs of the Engineering and Services community (7).

Management Question

The requirement for this independent survey was a need to know how effective the Engineering and Services Quarterly is in meeting the needs of its target audience. The editorial staff of the Engineering and Services Quarterly need to know how well they are fulfilling their mission for several reasons. First is a requirement to justify their continued existence. This is a management control to help answer the questions of effectiveness and efficiency. If the Quarterly is not meeting a need there is no reason for command to support its continued existence. With no profit motive, command must measure its usefulness in other ways. This survey was one of those ways. The editor and staff of the journal also need to know about changes in the needs of their readership in order to remain responsive to those needs.

The Engineering and Services Quarterly staff conducted a survey through the journal, in fall 1984, prior to this independent survey, to obtain some of this information. The first objective of this research was to

validate the findings of that survey. This was accomplished by using selected questions from the in-house survey and a random sample of the target audience, not just the readers. The second objective was to examine patterns of readership. The questions here are what proportion of the target audience is receiving the Engineering and Services Quarterly, and how much of it they read and use. The final objective was to obtain suggestions to improve the effectiveness of the Engineering and Services Quarterly. This was accomplished through the use of two open-ended questions at the end of the survey.

Research Questions

This project addressed three basic research questions:

1. Is the in-house survey a useful instrument to measure the readership, despite the skew of the returns?
2. Is there a difference between the various segments of the target audience, and which segment most closely resembles the population surveyed by the in-house survey?
3. How can the Engineering and Services Quarterly be made more useful to the managers in the field?

II. Methodology

Selection of Method

The method selected to obtain the information needed to answer the research questions was a written mail survey. The reasons for this selection were very simple. This method was less costly and time-consuming than possible alternatives, such as field observations or telephone surveys. The problem in this project was not what to do but how to do it as well as possible. The focus of this chapter is how a valid survey instrument was constructed and how a representative sample was selected to insure that the differences in the population could be examined.

There are three sections in this chapter. The first section deals with the process of developing the survey instrument. The survey instrument was developed based on information from three sources: (1) the staff of the Engineering and Services Quarterly, Air Force Engineering and Services Center (AFESC), Tyndall AFB, Florida (7; 8); (2) survey instrument design instructions in Emory's Business Research Methods (4); and (3) surveying information from the Air Force Manpower Center (AFMPC), Randolph AFB, Texas (9). The next section deals with defining the population and selecting the sample. The

definition of the population and selection of the sample were based on information found in Business Research Methods (4) and information from the Air Force Manpower Center (9). The third section covers the statistical techniques used to evaluate the results. This section was based on Devore's Probability and Statistics for Engineers and the Sciences (3) and the manuals for the Statistical Package for the Social Sciences (SPSS) (5; 6) to analyze the data.

Design of Survey Instrument

The survey instrument (see Appendix B) was developed from the three research questions listed at the end of Chapter I:

1. Is the in-house survey a useful instrument to measure the readership, despite the skew of the returns?
2. Is there a difference between the various segments of the target audience, and which segment most closely resembles the population surveyed by the in-house survey?
3. How can the Engineering and Services Quarterly be made more useful to the managers in the field?

The survey initially requests demographic data, which were used to stratify the population. The demographic data were the independent variables used to analyze the target audience. The body of the survey has

questions in basically four groups: (1) multiple choice questions taken directly from the in-house survey, used to check the validity of the results of that survey; (2) multiple choice questions designed to obtain additional information about the readership habits and the use that the target audience finds for the Engineering and Services Quarterly; (3) two open-ended questions asking for suggestions of ways to improve the content and distribution of the Engineering and Services Quarterly; and (4) two questions addressing whether members of the target audience who are not familiar with the Quarterly would use it if they had it.

The questions that were included directly from the in-house survey are questions 1 to 3 and 5 to 26 (see Appendix A). The remaining question in that survey is dependent on the respondent having a copy of the journal at hand. In order to minimize the possibility of bias from the additional general opinion questions, the questions from the in-house survey were placed immediately after the demographic questions, in the order in which they appeared in the in-house survey with one exception: an additional question dealing with project image, placed directly after a related question on the respondent's opinion of the Quarterly. It was assumed that the demographic questions would not introduce a bias, as the response cards from the in-house survey started with demographic questions.

The additional questions in the survey were developed from AFMPC's surveying information (9). The new questions were reviewed by the author, the thesis research advisor, and the engineering management program manager. The survey was then pretested on approximately half of the students in the graduate engineering management section at AFIT. After suitable revision the survey was then retested on the remaining graduate engineering management students and approved.

The open-ended questions were placed near the end of the survey. They deal with methods of improving the Engineering and Services Quarterly in two general areas, content and distribution. The basic reason for using open-ended questions for this section was the difficulty of constructing multiple choice questions with exhaustive answers in this area. Although open-ended questions are more difficult to analyze, multiple choice questions would reduce the possibility of obtaining useful new suggestions.

Definition of Population and Selection of Sample

Based on conversations with Mr. Sullivan, editor of the Engineering and Services Quarterly, and on the purposes stated in the masthead of the journal, the target audience was defined as all Air Force Engineering and Services managers worldwide, both military and civilian.

This includes positions from shop foreman up. To operationalize this definition, the decision was made to take any member of any Air Force Civil Engineering or Services career field with a military rank of E-7 or higher, or a civilian grade of GS-7 or higher. In defining the population by rank and grade rather than by job title, we may have missed a few managers at small installations where a junior noncommissioned officer could be filling the position of shop foreman or managing a dining hall. We may also have included a few senior noncommissioned officers who are not filling a managerial position. We assumed, however, that these cases were too few to bias the results. This assumption was necessary to obtain a random sample from AFMPC records.

This survey was based on a stratified random sample for two reasons. The first was to allow a direct comparison between the in-house survey and this survey. The second was to look for differences in readership patterns based on job level, using rank as a surrogate. The basic strata were military vs. civilian and senior managers vs. junior managers. In the military there was an additional breakdown to recognize the differences in experience and training between senior noncommissioned officers and junior officers. The division between junior and senior officers was designed to allow a direct comparison with the in-house survey. The basic strata for

this survey were military officers 0-4 to 0-6, military officers 0-1 to 0-3, noncommissioned officers E-7 to E-9, civilians GS-13 to GS-15 and civilians GS-7 to GS-12.

Statistical Tests and Analysis

The hypotheses to be tested in this project were that there is no difference between the various strata of the population and that there is no difference between the results of the in-house survey and the random survey. The objectives were to find out who in the Engineering and Services community is using the Engineering and Services Quarterly and if the Engineering and Services Quarterly can be made more useful to the field. The main statistic of interest was the mode on each question. This statistic was calculated for the population as a whole and for each stratum of the population. A chi-squared goodness-of-fit test was then performed to determine if there was a significant difference between strata of the population and the in-house survey respondents.

The chi-squared test determined if the two surveys were sampling the same population. Chi-squared values less than 10 indicated that the two surveys were sampling the same population and therefore no additional analysis was needed. Chi-squared values greater than 10 indicated that the surveys were sampling statistically different populations. Populations that were significantly

different indicated a need for additional analysis. The additional analysis consisted of examining the mode and the percentage of positive responses for each survey and each stratum to support a management judgment as to whether the useful management information generated by the surveys was greatly different. The main reason for both of these surveys was to obtain useful management information. Chi-squared values indicating that both surveys were sampling the same population would be prima facie evidence supporting the validity of the in-house survey responses. If, on the other hand, the chi-squared values indicated that the surveys were sampling different populations, additional analysis was required.

The objective of the analysis of the open-ended questions was to discover ways to improve the Engineering and Services Quarterly. Descriptive statistics were not used to analyze the open-ended questions. The answers were grouped and analyzed logically.

The next chapter discusses the findings and analysis.

III. Findings and Analysis

Introduction

The findings and analysis are divided into three main sections. The first section analyzes the results of the independent survey and compares them, question by question, with the results of the in-house survey. The second section compares the responses of the rank-based population strata from the independent survey with those of the in-house survey. The last section compares the responses of the Civil Engineering personnel with the responses of the Services personnel.

Comparison of Readership Survey with In-House Survey

The first step was to analyze the overall results of the readership survey, question by question. To do this an SPSS frequencies package was run, which gave absolute, relative, and cumulative frequencies for each answer on all questions and a number of statistics for each question, including the mode. Because the data vary from nominal to ratio scale, the appropriate statistics for consistent comparison are the frequencies of the answers, the mode, and the range.

Demographic Data. The first four questions were demographic in nature and were used to insure that all the strata of the target audience were adequately covered and to develop a picture of that audience. Of the 1500 surveys mailed out, 843, or 56.2%, were returned. Of those surveys returned, 154 were from junior civilians, GS7 to GS11; 164 were from senior civilians, GS12 to GS15; 159 were from senior NCOs, E7 to E9; 168 were from junior officers, 01 to 03; 168 were from senior officers, 04 to 06; and two respondents failed to give their grade. All five strata were well represented. The largest number of any one grade to respond were 104 master sergeants; the largest number of any civilian grade were 96 GS12s; the largest number of any officer grade were 78 captains. As expected, the respondents' education level was high; 72.6% had a bachelor's degree or higher and 31.1% had an advanced degree. As to where they worked, 84.8% were in Civil Engineering and 14.1% were in Services, with 1.1% responding that they were in the "other" category. As to the number of people that they supervised, the mode was "none" with 33.5%. The next two most frequent answers were "more than 20" with 22.5% and "1 to 5" with 21.5%.

Familiarity with the Quarterly. The fifth question determined if the respondents were familiar with the Engineering and Services Quarterly; 87.1% responded that

they were familiar with the Quarterly and 12.9%, or 109 people, said that they were not familiar with the Quarterly. The population was divided into strata, based on rank, and the percentage of each stratum who were not familiar with the Quarterly was determined. Of the junior civilians, GS7-GS11, 17.5% were not familiar with the Quarterly. Of the senior civilians, GS12-GS15, 10.4% were not familiar with the Quarterly. Of the senior NCOs, E7-E9, 20.8% were not familiar with the Quarterly. Of the junior officers, 01-03, 14.3% were not familiar with the Quarterly. Of the senior officers, 04-06, only 2.4% were not familiar with the Quarterly. In general, familiarity with the Quarterly increases with increasing grade.

Reception of the Quarterly. The sixth question asked if the respondents regularly received the Quarterly at their office or shop; 63.3% said that they did, 23.4% said that they did not, and 13.3% did not answer the question. Of the 197 respondents who answered that they did not receive the journal at their office, 18.2% were junior civilians (18.2% of the total sample); 17.7% were senior civilians (22.8% of the total sample); 29.9% were senior NCOs (18.8% of the total sample); 21.8% were junior officers (20.0% of the total sample); and 11.7% were senior officers (19.9% of the total sample). Thus the respondents who do not receive the journal are fairly evenly

distributed throughout the target audience, with senior officers and senior civilians more likely and senior NCOs less likely to receive the journal. The respondents who did not receive the journal were also compared by whether they worked in Civil Engineering or Services; 86.3% worked in Civil Engineering (84.6% of the total sample); 13.7% worked in Services (14.1% of the total sample). Thus Civil Engineering and Services personnel are equally likely to receive the journal. The majority of the 13.3% who did not answer this question were those who were not familiar with the Quarterly.

Comparison with In-House Survey. The next group of 23 questions, questions 7 to 29, was copied directly from the in-house survey to see if the two surveys got similar results. Question 30 was added to determine if the Quarterly is affecting project image by improving Engineering and Services personnel's understanding of how their jobs affect the overall mission of the Air Force. Question 31 also came directly from the in-house survey. For the questions which are common to both surveys, the results of the readership survey will be presented, and those results will be compared with the results of the in-house survey.

For question 7 (How do you normally obtain the Quarterly?) the mode for the readership survey was

"official USAF distribution," 51.2%. The next most frequent answer was "do not know" with 26.3%. This compares to 77.2% on the in-house survey who said that they received the Quarterly through official Air Force distribution. The chi-squared values for this question were 439.7 with nonrespondents included and 485 with nonrespondents excluded. This indicates that the two surveys sampled different populations.

For question 8 (How many other readers do you estimate will share the copy of the Quarterly that you see?) the mode was "1 to 5" for both surveys, with 34.0% for the readership survey and 41.2% for the in-house survey. The second most frequent answer in both cases was "6 to 10," with 30.1% in the readership survey and 38.1% in the in-house survey. In the readership survey, 30.4% responded with answers indicating 11 or more, while in the in-house survey 17.5% gave the same answer. The chi-squared values for this question were 116 including nonrespondents and 116 excluding nonrespondents. This indicates that the two surveys sampled different populations.

For question 9 (The number of copies distributed to your duty section through official channels is:) the mode for the readership survey was "enough" with 47.0% while the mode for the in-house survey was "not enough" with 64.2%. The second most frequent answer on the readership survey was "not enough" with 37.4%, and the second

answer on the in-house survey was "enough" with 33.7%. The chi-squared values for this question were 1400 including nonrespondents and 1613 excluding nonrespondents. This indicates that the two surveys sampled different populations.

For question 10 (How many issues do you see annually?) the mode for the readership survey was "four" with 51.8% and the mode for the in-house survey was also "four" with 70.7%. The chi-squared values for this question were 137.2 including nonrespondents and 135.9 excluding them. This indicates that the two surveys sampled different populations.

For question 11 (How much of each issue do you read?) the mode for the readership survey was "most" with 34.4%, and 65.6% indicated that they read half the magazine or more. On the in-house survey the mode was also "most" with 42.8%, and 83.6% indicated that they read half or more. The chi-squared values for this question were 330 including nonrespondents and 349 excluding nonrespondents. This indicates that the two surveys sampled different populations.

For question 12 (Does your organization retain back issues?) the mode for the readership survey was "yes" with 43.0%. The mode was also "yes" for the in-house survey with 64.3%. The second most frequent answer on the readership survey was "do not know" with

34.9%. The chi-squared values for this question were 272 including nonrespondents and 311 excluding them. This indicates that the two surveys sampled different populations.

Questions 13 to 31 solicit respondent opinions of the journal's usefulness and quality. These questions will be analyzed using the chi-squared goodness-of-fit test to see if the two surveys sampled the same population. The percentage of respondents giving positive answers will also be compared to see if the surveys yielded similar management information.

For question 13 (Which of the following best describes the value of the Quarterly to you?) the mode was "informative--learn something each issue" with 46.3% for the readership survey and the same for the in-house survey with 43.7%. The second most frequent answer on both surveys was "educational" with 22.7% in the readership survey and 20.4% in the in-house survey. Those were the two most positive answers and accounted for 69% of the responses on the readership survey and 64.1% of the responses on the in-house survey. The chi-squared values for this question were 124 including missing values and 123 excluding them. This indicates that the two surveys sampled different populations, but as far as evaluating how readers value the Quarterly, the responses are similarly positive.

Questions 14 to 28 concern the contents and appearance of the Quarterly. These questions are rated on a scale of poor, unsatisfactory, satisfactory, good, and excellent. The results which were considered important for these questions were the mode, the percentage of positive responses (satisfactory, good, or excellent), and the percentage of responses that are good or better in each survey (see Table I), and how close the populations surveyed were to each other as indicated by the chi-squared values (see Table II).

Observe from Table II that only on question 26 (front cover) do both surveys appear to sample the same population. However, both surveys produce the same mode on eleven of the fifteen questions, and a different mode on only four of the questions: 15 (type), 16 (proofreading), 22 (ESQ World), and 24 (TECHNOTES) (see Table I). Although the modes were different on these questions, the difference was only one step in each case. The general results were that 92% or more of the respondents to both surveys were at least satisfied with the journal on all the questions. For questions 15 (type) and 16 (proofreading) the difference in the modes was between good and excellent. Both surveys indicated that the respondents were pleased with both the type and proofreading. For question 22 (ESQ World) the in-house survey indicated that the respondents were pleased with this section while the

TABLE I

PERCENTAGE OF RESPONSES FOR QUESTIONS 14 TO 28

Question #	% Positive Responses		% Good or Better		Mode	
	In-House	Indep	In-House	Indep	In-House	Indep
14: layout	99.0	97.8	79.6	60.1	good	good
15: type	99.0	97.7	79.6	65.9	exc	good
16: proofreading	99.2	98.1	68.1	72.8	exc	good
17: graphics	98.1	95.4	72.1	66.2	good	good
18: article quality	98.0	96.5	68.4	66.4	good	good
19: article thoroughness	97.1	96.9	72.4	63.4	good	good
20: article variety	92.0	92.7	62.0	55.4	good	good
21: current emphasis	98.0	95.6	76.4	61.3	good	good
22: ESQ World	97.0	96.5	68.6	49.8	good	sat
23: CESMETtips	94.0	95.3	65.0	59.3	good	good
24: TECHNOTES	95.1	95.8	55.3	58.1	sat	good
25: photographs	96.0	93.7	64.0	57.6	good	good
26: front cover	96.0	94.3	51.4	56.5	sat	sat
27: back cover	92.0	95.6	41.0	47.0	sat	sat
28: overall	97.0	97.5	71.0	65.1	good	good

TABLE II
CHI-SQUARED VALUES FOR QUESTIONS 14 TO 28

Question #	Chi-Squared Values (3 significant digits)
14: layout	165
15: type	316
16: proofreading	92.0
17: graphics	33.8
18: article quality	59.0
19: article thoroughness	86.6
20: article variety	25.3
21: current emphasis	101
22: ESQ World	74.5
23: CESMETtips	16.9
24: TECHNOTES	31.8
25: photographs	21.2
26: front cover	5.22
27: back cover	24.6
28: overall	39.1

independent survey indicated that the respondents were at least satisfied with it. For question 24 (TECHNOTES) the independent survey indicated that the respondents were pleased with this section while the in-house survey indicated that the respondents were at least satisfied with it. In general, the differences in the responses between the two surveys were a matter of degree not of totally different opinions. With only one exception, the two surveys sampled two statistically different populations; however, the answers that the respondents gave for their opinions of the Quarterly produced similar management information.

For question 29 (Does the Quarterly meet its purpose as stated on its contents page of each issue?) the mode for both surveys was "agree." On the readership survey 78.1% of the responses were either "agree" or "strongly agree," and 15% undecided. On the in-house survey 86% of the responses were either "agree" or "strongly agree," with 10% undecided. Both surveys indicated that the majority of readers believed that the Quarterly was doing its job. The chi-squared values were 118 including nonrespondents and 110 excluding them. This indicates that the two surveys sampled different populations.

For question 30, the project image question, (The Quarterly improved my understanding of how my job affects the overall mission of the Air Force.) the mode was

"agree." Of those who responded, 68.1% either agreed or strongly agreed, 19.6% were undecided, 11.2% disagreed, and 1.1% disagreed strongly. The Quarterly, then, appears to support project image.

For question 31 (How do you rate the Quarterly in comparison with other Engineering and Services type publications?) the mode for the readership survey was "better than average." The mode for the in-house survey was "among the best." On the readership survey 61.1% of the respondents said that the Quarterly was either "the best," "among the best," or "better than average" and another 29% said that it was "average." On the in-house survey 67.7% of the respondents said that the Quarterly was either "the best," "among the best," or "better than average" and another 17.6% said that it was "average." On both surveys the majority of the readers felt that the Quarterly was a better than average publication. The chi-squared values were 110 including missing values and 79 excluding missing values. This indicates that the two surveys sampled different populations.

General Opinion Questions. Questions 32, 33, and 34 were not in the in-house survey. These questions were added to gather additional information on the reader's opinion of the timeliness of the information and delivery of the Quarterly and a general opinion of the Quarterly.

For question 32 (How do you feel about the timeliness of the Quarterly when you see it?) the mode was "adequate." Of those who answered this question, 15% said it is "slow," 45.4% said it is "adequate," 28.4% said it is "good," and 11.2% expressed "no opinion." This seems to indicate that the majority of the readers find the information timeliness acceptable but believe it could be improved.

For question 33 (Which best describes your opinion on the Quarterly?) the mode was "retain as is." Of the people who answered this question, 49.3% said "retain as is," 37.8% said "change somewhat," 2.4% said "change drastically," 1.4% said "eliminate," and 9.1% expressed "no opinion." This seems to track well with the responses on question 31 where 91% said the Quarterly was average or better; on this question 87.1% said the Quarterly was fine or wanted small improvements in it.

For question 34 (How soon after publication do you normally see a copy of the Quarterly?) the mode was "more than two weeks to six weeks." Of those who answered this question, 17.8% said "two weeks or less," 57.8% said "more than two weeks to six weeks" and 24.4% said more than six weeks. This 24.4% compares to 15% who said information timeliness was "slow." This might indicate that it takes too long for the Quarterly to make the rounds in some organizations.

Questions 35 and 36 were open-ended questions and are discussed in Chapter IV. Questions 37 and 38 were an attempt to find out if those who were not familiar with the Quarterly would be likely to use it.

On question 37 (Do you read and/or use any professional/technical periodicals in connection with your job?) 55.6% said "yes" and 44.4% said "no." The 55% who use other publications would be likely to use the Quarterly if they received it. On question 38 (If you answered no to question 37, would you find such a professional/technical publication useful?) 83.7% of those who said that they did not now use a professional technical publication said "yes" and 16.3% of them said "no." This indicates that about 92% of the people who are not familiar with the Quarterly would be likely to use it if they received it.

Comparison of Rank-Based Population Strata

To find out if different strata of the population gave different answers, the population was divided into five strata by rank and the answers that each stratum gave were compared to the expected values derived from the in-house survey. In this section the chi-squared values are used to indicate if the population stratum is more or less close to the in-house survey population.

With the exception of the number of persons not familiar with the Quarterly, the population strata were

compared only on questions that were common to both surveys. Lower chi-squared values indicate a stronger or closer relationship; higher values indicate a weaker or more distant relationship. Because of the external variables affecting the data, chi-squared values that are within about 10% of each other probably do not indicate a reliable difference.

Table III depicts the large variations of the chi-squared values among the population strata. The only stratum which appears to have consistently lower chi-squared values is the senior officers, 0-4 to 0-6. There are 12 times out of 24 where the senior officers were the closest to the in-house survey or within 10% of the closest and 3 more times where the chi-squared values indicate that they are from the same population, although another stratum had a lower value.

The other statistic which was used to compare the population strata to the in-house survey was the number of times that a group produced a mode different from the mode in the in-house survey. The senior officers produced a different mode from the in-house survey on five questions. The total readership survey produced a different mode on six questions. The junior officers and the senior civilians produced a different mode on eight questions each. The senior NCOs and the junior civilians had a different mode on nine questions each. The exact

TABLE III
CHI-SQUARED VALUES (POPULATION STRATA
VS. IN-HOUSE SURVEY)

Question #	GS7-GS11	GS12-GS15	E7-E9	01-03	04-06
7	168.459	164.893	61.709	165.694	31.354
8	31.968	50.142	13.511	32.179	17.176
9	282.266	171.504	8.922	212.842	130.790
10	36.379	22.308	65.225	53.506	15.952
11	86.924	127.889	58.036	147.752	10.228
12	112.051	88.945	80.146	80.724	3.787
13	42.269	40.640	12.274	42.058	14.887
14	37.881	28.097	29.892	54.029	11.965
15	43.492	78.623	88.269	99.919	56.917
16	8.094	20.385	18.838	20.923	22.379
17	5.890	4.244	2.802	21.797	2.940
18	18.630	15.196	3.554	2.461	21.700
19	17.838	25.744	6.952	20.612	19.535
20	11.403	4.426	12.966	11.859	2.106
21	28.587	33.062	24.931	25.250	1.815
22	20.458	37.176	32.407	35.179	3.628
23	2.506	15.945	11.264	4.415	3.948
24	11.699	12.902	4.455	10.163	5.675
25	9.159	1.261	7.477	33.862	5.684
26	3.268	5.903	9.197	12.424	2.822
27	12.339	4.717	3.585	9.163	10.344
28	1.356	13.935	12.369	18.997	10.547
29	16.040	30.906	13.656	56.381	14.035
31	12.806	7.833	24.607	37.420	5.929

percentages that any population stratum produced were not examined because the question here was which population stratum, if any, the in-house survey responses were biased toward, not how any one stratum of the population felt about the Quarterly. Clearly, the in-house survey responses were biased toward the senior officers.

Comparison of Civil Engineering with Services

The next question addressed was what difference, if any, exists between the views of Civil Engineering and Services personnel. In this case the chi-squared test was inappropriate because Civil Engineering and Services personnel are, by definition, different populations.

These two groups were compared by the mode of each group on each question. The mode of each group was also compared to the mode of the population as a whole. The Civil Engineering personnel had the same mode on each question as the readership survey. This was not a surprise as the Civil Engineering personnel made up 87.1% of the sample. The Services personnel produced a different mode from the readership survey as a whole and the Civil Engineering personnel on five questions.

On question 9 (the number of copies distributed to your duty section through official channels is:) the mode for Services was "not enough," and the mode for Civil Engineering was "enough." Of the Services personnel,

44.6% said "not enough" and 39.6% said "enough," while of the Civil Engineering personnel, 48.0% said "enough" and 36.3% said "not enough." Apparently, Services personnel believe that they have less access to the Quarterly.

On question 22, rating the contents of the Quarterly, (ESQ World) the mode for Services was "good" and the mode for Civil Engineering was "satisfactory." For Services, 98.9% of the respondents rated ESQ World "satisfactory" or better and 61.2% rated it "good" or better. For Civil Engineering, 96.7% rated it "satisfactory" or better and 47.9% rated it "good" or better. This indicated that Services people like ESQ World better than Civil Engineers do.

On question 24 (TECHNOTES) the mode for Civil Engineering was "good" while the mode for Services was "satisfactory." For Civil Engineering, 95.6% rated TECHNOTES "satisfactory" or better and 59.1% rated it "good" or better. For Services, 96.7% rated it "satisfactory" or better and 52.2% rated it "good" or better. Over half of both groups were pleased with TECHNOTES, and most of the rest of both groups were satisfied with them.

On question 25 (photographs) the mode in Civil Engineering was "good" and the mode in Services was "satisfactory." For Civil Engineering, 93.8% rated them "satisfactory" or better and 57.3% rated them "good" or better. For Services, 91.4% rated them "satisfactory" or better

and 52.7% rated them "good" or better. In general, both groups seem to be satisfied with the use of photographs in the Quarterly.

On question 31 (How do you rate the Quarterly in comparison with other Engineering and Services type publications?) the mode for Services was "among the best" and the mode for Civil Engineering was "better than average." For Services, 86.5% of the respondents rated it "average" or above and 62.7% rated it "above average" or better. For Civil Engineering, 85.2% rated it "average" or better and 60.1% rated it "above average" or better. The majority of both groups think the Quarterly is a better than average publication.

On the four questions about the respondents' opinion of the Quarterly where Civil Engineering and Services differ, the difference is a matter of degree, not a totally different opinion. Both groups were very positive in their responses to the Quarterly. Only on the question of amount of distribution did there appear to be a difference of opinion, and both groups were fairly evenly distributed on that question. The Services personnel generally believe that they need more copies of the Quarterly than they receive. The Civil Engineering personnel generally believe that they are receiving enough copies of the Quarterly.

The next chapter examines the results of the two open-ended questions.

IV. Review and Analysis of Open-Ended Questions

The two open-ended questions at the end of the survey were planned to generate comments in two general areas. Question 37 asked respondents to list or describe any features that they would like to see added to, or deleted from, the Quarterly. Although the intention was to solicit ideas for improving the contents of the Quarterly, it also generated responses dealing with the format and physical appearance of the Quarterly. Question 38 asked the respondents to give ideas for improving the distribution of the Quarterly.

The responses to these open-ended questions fell into three groups. The first group is suggestions for changes in the features and content of the Quarterly. The next group is suggestions for cosmetic or physical changes in the distribution of the Quarterly. These suggestions are grouped and discussed in this chapter. In addition, Appendix C contains a listing of the suggestions.

Content Improvement Suggestions

Suggestions for change in the content of the Quarterly fell into three groups: changes in departments, ideas for feature articles, and comments. While most of

the suggestions for changes in departments were for the addition of new departments, there were some suggestions to change or eliminate existing departments.

New Departments. The most frequent request for a new department was for a personnel department. This department would contain inputs for AFMPC such as officer and senior NCO promotions, CONUS and overseas assignment opportunities, tips on how to help AFMPC get people the assignments that they want, and other information pertinent to career advancement.

The second most frequent suggestion for a new department was a readiness department, containing Prime BEEF and RIBS training information, short articles on readiness organization, feedback from deployments, and other readiness related materials. This department could also contain articles about local conditions where Engineering and Services troops might be deployed. Contributors to such a department would include readiness officers and NCOs at headquarters and base level and troops returning from deployments.

Other suggestions included having a "cross talk" section where managers could write in to ask others how they solved a problem or explain how they solved a problem, providing a forum where Engineering and Services managers could share information on problems and solutions.

A similar suggestion was to have a computer users' section devoted to WIMS and SIMS implementation and applications. A forum for discussing the application of the new computer systems, it could contain anything from management applications to computer code for useful programs. The people who would contribute to this section would be the users of WIMS and SIMS.

Another popular suggestion was to have an annual update of AFIT short courses in the summer or fall issue, containing the AFIT School of Civil Engineering calendar for the next fiscal year and a two- or three-line description of each class offered. It could also contain information on how to apply to AFIT.

A number of respondents asked that TECHNOTES and CESMATtips be expanded to contain more information on the subjects that they address. These respondents said that these departments do not contain enough information on a subject to be really useful. On the other hand, several respondents suggested that TECHNOTES and CESMATtips be eliminated because they did not contain enough information to be useful.

Finally, there were several suggestions for strengthening Services coverage. One person suggested a regular Services update, but did not expand on what he meant. Another suggested sections devoted to specific areas; e.g., food services, billeting, military family

housing, or real property. One respondent even suggested converting the Quarterly into separate newsletters, one for Engineering and another for Services.

Feature Articles. There were suggestions for feature articles in over thirty areas. The area most often suggested was Services concerns; e.g., billeting, food services, and dormitory management. As suggested above, some of the Services managers apparently feel neglected by the Quarterly. The possible cause of the problem was noted by one respondent who wanted to see more Services-related articles, but wondered who would write them.

Other popular requests for feature articles included environmental and energy issues, facility and land use planning, military family housing issues, contracting out and A76 procedures, ways to win on A76 procedures, and legal limitations. Several people suggested more articles on research and development, and others suggested more articles on leadership and management. Also requested were more articles on policy and a series of articles on the history of Air Force Civil Engineering. Any or all of these suggestions merit consideration.

Less useful were the inevitable differences of opinion. Some people said that the Quarterly needs more technical features, and others said that it needs fewer.

One person suggested that the Quarterly eliminate all personal experience articles, and another suggested more. Three respondents suggested having more interviews and biographical articles on key personnel, and one person said to eliminate all articles on the generals. One person even suggested the elimination of all feature articles, but he failed to say what should replace them.

Comments. Along with the suggestions were some comments. The most frequent comment was a compliment, such as "keep up the good work" or "great job." The rest of the comments were derogatory; for instance, "the Quarterly reads like a regulation" and "it is sometimes difficult to separate the trash from the substance." Fortunately, the compliments outnumbered the derogatory comments a little more than two to one.

Suggested Cosmetic Changes

A number of suggestions dealt with the physical makeup of the Quarterly; that is, how to improve its general appearance. Some suggestions were more photographs, additional color, and a slick finish. While one person suggested adding a few cartoons, another said to reduce the amount of art and graphics. A suggestion to change the format to make the journal easier to read unfortunately failed to say what the new format should be.

A final suggestion deserves special note: that reminders to "pass it on" be placed throughout the Quarterly. These reminders should help alleviate the distribution problems.

Distribution Suggestions

The most frequent suggestion found in the entire survey was to make more copies available to the readers. This suggestion appeared in one form or another on 57 surveys. One group of suggestions was to mail the Quarterly directly to managers, by job title, and distribute the Quarterly to lower levels, as low as shop foremen. The other group of suggestions was to distribute by individual and included sending a personal copy to all officers with a Civil Engineering or Services Air Force Specialty Code (AFSC), sending a personal copy to all O-1s and O-2s with an Engineering or Services AFSC, sending a personal copy to all Base Civil Engineers and Chiefs of Services, and sending a copy to all registered architects and engineers who are working for the Air Force. While any of these suggestions would certainly help some stratum of the target audience, any increase in the number of copies would increase the costs.

One suggestion from nine respondents which did consider the cost was to make the Quarterly available by paid subscription. An order form could appear in each issue.

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One suggestion from nine respondents which did consider the cost was to make the Quarterly available by paid subscription. An order form could appear in each issue.

The Quarterly would then be able to print the additional copies that readers would be willing to pay for. The suggestion would also insure that readers who really want the Quarterly could get it.

Two other comments should be mentioned. One, which appeared in two surveys, was to eliminate the Quarterly and save money. The other suggestion, which appeared in one survey, was to send the Quarterly only to Base Civil Engineers and Chiefs of Services and let them distribute the information in it as they see fit. When one considers the general positive response to all the other questions and the large number of requests for additional copies of the Quarterly, these two suggestions seem a bit extreme. While money could be saved, necessary information flow would no doubt suffer.

The next chapter presents the conclusions and recommendations supported by this research project.

V. Conclusions and Recommendations

This chapter answers each of the three research questions, presents general conclusions and, where appropriate, gives recommendations.

In answer to the question of whether the in-house survey is a useful instrument to measure the readership, the in-house survey results are biased because they represent a statistically different population than does the random readership survey, as indicated by the high chi-squared values. However, the reason that either survey is conducted is to gather useful management information about the Engineering and Services Quarterly. When analyzed for useful management information, both surveys produce substantially the same results. The target audience reads and uses the Quarterly and is generally satisfied with the Quarterly. For the purpose for which it is intended, the in-house survey produces a useful and reproducible result. The shade of difference between the survey results does not justify the expense of conducting a random readership survey on a regular basis. The research findings, then, support the recommendation that the staff of the Quarterly continue to conduct and use the in-house survey as they have in the past.

The second research question asked if there is a difference between the population strata and, if so, which stratum most closely resembles the population reached by the in-house survey. The first part of this question was answered by comparing the percentage of each of the five population strata who said that they were not familiar with the Quarterly. With the exception of the senior officers who had 2.4% not familiar with the Quarterly, the other four strata ranged between the senior civilians at 10.4% and the senior NCOs at 20.8%. The higher ranking strata had fewer members not familiar with the Quarterly. These findings support the recommendation that the distribution of the Quarterly not be changed to target one stratum of the audience without increasing the number of copies distributed. To do so would only take copies away from another group. If the number of copies is increased, the additional copies should go to the lower levels of management; that is, junior officers, junior civilians, and senior NCOs.

The other part of this question was intended to find out if the in-house survey was biased and, if so, how. The results indicate that the responses of the senior officers as a group were the closest to the responses of the in-house survey, which indicates that the results of the in-house survey are biased toward the senior officers.

This finding appears reasonable because the majority of respondents to the in-house survey were the more senior officers.

Recommended Changes for the Quarterly

The third part of this project was to look for ideas, for ways to improve the Quarterly. Most of the usable ideas were for changes within the journal itself. There were, however, ideas which might help distribution.

New Departments. The first group of proposed changes is for additional departments in the Quarterly. I have selected five, from the many suggested, which I think should be given highest consideration for implementation, based on the number of times that they were suggested and how easily they could be implemented. Several more suggestions are discussed in Chapter IV, and Appendix C contains a list of suggestions for additional departments. However, the five presented here are the ones which I feel would be the most productive. They are not presented in any particular order.

Suggestion one is a readiness department. It could contain short articles, one to three pages, on any subject pertaining to readiness. For example, a readiness department should contain articles by Prime BEEF/RIBS commanders after every major exercise with recommendations for improvements in equipment, organization, and training. It

should also contain articles from headquarters on the structure and management of readiness forces. The articles in the readiness department, written by the people directly involved in readiness, would provide feedback to the rest of the career field.

Suggestion two is for an annual AFIT update. This would be much like the one-page listing of AFIT short courses contained in the Fall 1984 issue of the Quarterly, but it should also contain the School of Civil Engineering class schedule and a short section on how to apply to AFIT for short courses. The schedule would help with planning and scheduling for TDY to AFIT from the local bases. This would be easy to add. When the School of Civil Engineering sends their class listing to the journal, they should include their calendar.

Suggestion three is for a "cross talk" section where managers could write and ask how other bases are approaching a problem. Managers could also use such a section to cross feed suggestions and other information. Articles for such a section need be no more than a page long and might contain more than one subject at a time. The important thing is that such a section would be written by the readers themselves, and if they did not contribute, it could not exist.

Suggestion four is for a personnel department. Subjects would include anything from promotion percentages

to how to fill out a form 90 so that it is really useful to AFMPC. It could be a page or less in length and could be written by Palace Blueprint.

The last suggestion is for a computer corner, a cross talk section devoted to the use and application of our new mini computers. Contents would be contributed by the users and could contain anything pertaining to the WIMS/SIMS systems.

There is no guarantee that any of these departments would maintain reader support; however, these were the most often requested and the ones with the most feasible implementation. At least some of them should be tried because these are the items that the managers and leaders of Engineering and Services said that they want to see.

Feature Articles. The next group of suggestions is ideas for feature articles. A list of all the ideas is in Appendix C, which may be useful to the editorial staff of the Quarterly. I am not going to recommend many of these ideas, because I do not know where to find people capable of writing the articles.

One of the suggestions for articles that could be implemented was for a series of articles on the history of Air Force Civil Engineering. This could be done using information from the thesis efforts of Capt Dean Waggoner

and Lt Marwood Moe of AFIT/LS/GEM class 85S. Another suggestion for feature articles that may be possible to implement is the request for more management and leadership articles. It may be possible to have some of the management professors at AFIT write some articles for the Quarterly, or to ask them to have some of their graduate engineering management students write papers that could be turned into articles for the Quarterly.

One area that should be given some additional consideration is Services concerns. From their comments, a number of Services managers feel that they are being overlooked in the Quarterly. I do not have any suggestions of how to get additional articles on Services-related issues but it might be worth the effort to look for some. Another suggestion that might be worth looking into is the exchange of articles with civilian publications with similar interests, such as Hotel Management and Plant Engineer.

Distribution. Earlier I recommended not targeting audience strata without increasing the number of copies distributed. Additional copies, if made available, should go to the lower management levels. Two other suggestions which might be tried are to include reminders in the Quarterly to "pass it on," and to make the Quarterly available by subscription, at cost. If the Quarterly could be made available for the cost of printing and mailing the

additional copies, the number of copies in the field would increase without increasing the cost to the Air Force. Also, the additional copies would go to people who would read them. This recommendation is based on the assumption that the cost of a subscription could be kept low enough that managers would be willing to pay for it.

Conclusion

For the most part, the Air Force Engineering and Services Quarterly is meeting its stated objectives. While no major changes are called for, the suggestions in this chapter could help improve the Quarterly.

The management information that both the independent and the in-house surveys produce is similar and, in general, positive. These findings support the recommendation that the journal staff continue to conduct and use their in-house survey. Because the in-house survey produces reliable information, there appears to be no need for another independent survey in the next four years. However, another independent survey should be conducted in five to seven years to insure that the in-house survey results do not become more biased and to see if more changes are warranted then.

Appendix A: In-House Survey

E&S Quarterly **SURVEY** E&S Quarterly

1. How do you normally obtain the Quarterly?

- a. Official USAF distribution (PDO)
- b. Government Printing Office paid subscription
- c. Army/Navy distribution
- d. AFESC distribution
- e. Library
- f. Friend
- g. Unknown

2. How many other readers do you estimate will see your copy of the Quarterly?

- a. Only myself
- d. Eleven to fifteen
- b. One to five
- e. Sixteen or more
- c. Six to ten
- f. Do not know

3. The number of copies distributed to your duty section through official channels is:

- a. Enough
- b. Not enough
- c. Too many
- d. None
- e. Not eligible for official distribution

4. When did you first see this issue?

a. Circle number of month:

1 2 3 4 5 6 7 8 9 10 11 12

b. Circle day of month:

1 2 3 4 5 6 7 8 9 10 11 12

13 14 15 16 17 18 19 20 21

22 23 24 25 26 27 28 29 30

31

5. How many issues annually do you see?

- a. First issue
- c. Three
- b. Two
- d. Four

6. How much of each issue do you usually read?

- a. All
- b. Most
- c. About half
- d. One or two articles or departments
- e. Very little
- f. Look at but seldom read
- g. Varies, depends on issue

7. Do you, or does your office or organization, retain back issues of the Quarterly?

- a. Yes
- c. We are going to
- b. No
- d. Do not know

8. Which of the following describes the value of the Quarterly to you? (Select as many as applicable)

- a. Have used some contents in my work/professional life
- b. Some ideas/information may be useful in the future
- c. Educational-increased my understanding of Air Force Engineering and Services
- b. Informative - learn something new each issue
- e. Interesting-but of little direct value
- f. Uninteresting-but of some value
- g. No value

Authority: 10 USC, 8012, Secretary of the Air Force and Duties, Delegation by.
Principal Purpose: This survey is being conducted to evaluate the effectiveness of the Air Force Engineering and Services Quarterly and provide the readership an opportunity to influence the future editorial policy of the publication.

Routine Use: Survey data will be analyzed by the Director, Engineering and Services, Headquarters USAF, to determine the Quarterly's strengths and weaknesses, the preferences of the readership, and the editorial needs of the Engineering and Services professional community. Participation in this survey is entirely voluntary. No adverse action of any kind may be taken against any individual who elects not to participate in this survey.

USAF Survey Control Number 84-65 (Expires Dec.31, 1984).

Please rate each of the following:

- A. Poor
- D. Good
- B. Unsatisfactory
- E. Excellent
- C. Satisfactory

9. Layout (general appearance)

A B C D E

10. Type (print and size)

A B C D E

11. Proofreading (composition)

A B C D E

12. Graphics (tables and charts) -

A B C D E

13. Article quality -

A B C D E

14. Article thoroughness -

A B C D E

15. Article variety -

A B C D E

16. Current Emphasis

A B C D E

17. ESQ World

A B C D E

18. CESMETips -

A B C D E

19. TECNOTES -

A B C D E

20. Photographs

A B C D E

21. Front cover

A B C D E

22. Back cover

A B C D E

23. Overall relevance -

A B C D E

24. The Quarterly meets its purpose as stated on the contents page of each issue.

- a. Strongly agree
- d. Disagree
- b. Agree
- e. Strongly agree
- c. Undecided

25. How do you rate the Quarterly in comparison with other Engineering and Services type publications?

- a. The best
- b. Among the best
- c. Better than most
- d. Average
- e. Worse than most
- f. Among the worst
- g. The worst
- h. I am not familiar with any other E&S publication

26. What other regular departments or features would you like to have in the Quarterly? (Select as many as applicable)

- a. Problem solving studies, research briefs
- b. Thesis abstracts
- e. Other
- c. Calender of events (Specify in comments)
- d. Letters to the editor
- f. None, leave as is

Comments Section:

Use the space provided at the bottom of the answer card to make additional comments about the E&S Quarterly, or topics you would like addressed in future issues. If you need more space, mail your additional comments with the response card together in an envelope to the Reader Survey address.

RESPONSE CARD MISSING?

We still want to hear from you. Make a copy of this page, mark your response to each question, add your other comments and mail to Reader Survey, Air Force Engineering and Services Quarterly, HQ AFESC, DEJ, Tyndall AFB, FL 32403.

Appendix B: Independent Survey

SURVEY SCN 85-46

Survey Instructions: Please take a few minutes of your time and fill out the following survey. Place your answers directly on the questionnaire form, place the form in the stamped pre-addressed envelope and return it to AFIT. Please do not include your name or social security number.

This survey is an attempt to determine how the various segments of the engineering and services community feel about the job that the Air Force Engineering and Services Quarterly is doing. The survey will also attempt to highlight areas where the Quarterly can improve the service it provides to the community. You have been randomly selected to represent a segment of that community. We therefore need your support and input to develop an accurate picture of the job the Quarterly is doing. If you have any questions or comments regarding this survey, please contact Capt Allen Miller, AFIT/LS, Wright-Patterson AFB, Ohio 45433 (AV 785-6569).

Please circle the correct answer

1) What is your military rank or civilian grade?

- | | | | |
|----------|----------|--------|----------|
| a) GS-7 | f) GS-12 | k) E-8 | p) O-4 |
| b) GS-8 | g) GS-13 | l) E-9 | q) O-5 |
| c) GS-9 | h) GS-14 | m) O-1 | r) O-6 |
| d) GS-10 | i) GS-15 | n) O-2 | s) other |
| e) GS-11 | j) E-7 | o) O-3 | |

2) What is your educational level?

- a) High school graduate
- b) Some college, no degree
- c) Associate degree
- d) Bachelor's degree
- e) Graduate degree

3) What career field do you work in?

- a) Civil Engineering
- b) Services
- c) Other

4) How many people do you supervise?

- a) None
- b) 1 to 5
- c) 6 to 10
- d) 11 to 20
- e) More than 20

- 5) Are you familiar with Air Force Engineering and Services
a) Yes
b) No if no go to question 37
- 6) Do you regularly receive the Quarterly at your office?
a) Yes
b) No
- 7) How do you normally obtain the Quarterly?
a) Official USAF distribution (PDO)
b) AFESC distribution
c) Other
d) Do not know
- 8) How many other readers do you estimate will share the copy of the Quarterly that you see?
a) none
b) 1 to 5
c) 6 to 10
d) 11 to 15
e) 16 or more
- 9) The number of copies distributed to your duty section through official channels is:
a) Not Enough
b) Enough
c) Too Many
d) Don't know
- 10) How many issues do you see annually?
a) 1
b) 2
c) 3
d) 4
e) None
- 11) How much of each issue do you read?
a) All
b) Most
c) About Half
d) Some
e) Do not read it
f) Varies; it depends on the issue
- 12) Does your organization retain back issues?
a) Yes
b) No
c) Plan to
d) Do not know

13) Which of the following best describes the value of the Quarterly to you?

- a) Have used some contents in my work
- b) Some ideas/information may be useful in the future
- c) Educational -- increased my understanding of AF engineering and services
- d) Informative -- learn something each issue
- e) Interesting -- but little of value
- f) Uninteresting -- but of some value
- g) No value

Items 14-28 concern the contents and appearance of the Quarterly. Please rate each area on the following scale.

- a) Poor
- b) Unsatisfactory
- c) Satisfactory
- d) Good
- e) Excellent

	a	b	c	d	e
14) Layout	—	—	—	—	—
15) Type	—	—	—	—	—
16) Proofreading	—	—	—	—	—
17) Graphics	—	—	—	—	—
18) Article quality	—	—	—	—	—
19) Article thoroughness	—	—	—	—	—
20) Article variety	—	—	—	—	—
21) Current emphasis	—	—	—	—	—
22) ESQ world	—	—	—	—	—
23) CESMETtips	—	—	—	—	—
24) TECNOTES	—	—	—	—	—
25) Photographs	—	—	—	—	—
26) Front cover	—	—	—	—	—
27) Back cover	—	—	—	—	—
28) Overall	—	—	—	—	—

29) The Quarterly meets its purpose as stated on the contents page of each issue. For your convinence the Quarterly's purpose statement is give below:

Attract highly qualified personnel to the Air Force Civil Engineering and Services career fields; Promote effective training, education, and retention; Communicate vital concepts, policies and practices which affect the wartime readiness of the United States Air Force; Promote professionalism and devotion to duty; Stimulate planning for the wartime survival of our personnel, weapons systems and facilities; develop Air Force stewardship of the well-being, quality of life and facilities support to Air Force personnel and their families throughout the world; Promote awareness of the efficient, effective and essential needs of the Air Force; Transfer knowledge of Air Force Engineering and Services' technical and scientific achievement; Promulgate teamwork among the Air Force Engineering and Services' total force; Achieve a professional dialogue to enhance the thought, development and contributions of the Engineering and Services team world wide.

- a) Strongly agree
- b) Agree
- c) Undecided
- d) Disagree
- e) Strongly disagree

30) The Quarterly improves my understanding of how my job affects the overall mission of the Air Force.

- a) Strongly agree
- b) Agree
- c) Undecided
- d) Disagree
- e) Strongly disagree

31) How do you rate the Quarterly in comparison with other Engineering and Services type publications?

- a) The best
- b) Among the best
- c) Better than average
- d) Average
- e) Worse than average
- f) Among the worst
- g) The worst
- h) Not familiar with any other

32) How do you feel about the timeliness of the Quarterly when you see it?

- a) It is slow -- some materials in each issue are outdated by the time I see it.
- b) It is adequate -- very few articles are outdated by the time I see it.
- c) Good -- I have seldom found outdated materials in it.
- d) no opinion

33) Which best describes your opinion of the Quarterly?

- a) Retain as is
- b) Change somewhat
- c) Change drastically
- d) Eliminate
- e) No opinion

34) How soon after publication do you usually see a copy of the Quarterly?

- a) 2 weeks or less
- b) More than 2 weeks to 6 weeks
- c) More than 6 weeks to 10 weeks
- d) More than 10 weeks

Please answer questions 35 and 36 in space provided.

35) Please list or describe any features that you would like to see added to or deleted from the Quarterly.

36) Please give any ideas that you have for improving the distribution of the Quarterly.

If you are not familiar with the Engineering and Services Quarterly please answer questions 37 and 38.

37) Do you read and/or use any professional/technical periodicals in connection with your job?

- a) yes if yes what are they? _____
- b) no _____

38) If you answered no to question 37, would you find such a professional/technical publication useful?

- a) yes
- b) no
- c) answered yes to question 37

THANK YOU FOR YOUR COOPERATION !!

Appendix C: Synopsis of Comments

This appendix is a listing of the comments that were received in answer to the open-ended questions. This is only a list of comments grouped in one possible logical order. No attempt was made to tabulate the number of times a comment appeared or to explain the comments. In some cases comments have been reworded to make them readable and in several cases to make them printable. The only intent here is to list the comments received.

Comments on Distribution

- More copies
- Mail directly to the working level
- Send to lower level; i.e., Superintendents and Foremen
- Mail directly to individual managers
- Print more issues per year; i.e., monthly or bimonthly
- Send a personal copy to all BCEs and SVs
- Mail directly to all lieutenants
- Make available by subscription
- Mail a copy to all civil engineering and services officers
- Send only to BCEs and SVs
- Send a copy to all registered engineers and architects working for the Air Force
- Save funds and eliminate the Quarterly

Suggestions for Departments and Improvements

- Include a personnel section
- Include a WIMS/SIMS section
- Include a readiness section
- Include a "cross talk" section
- Expand CESMATtips and TECHNOTES
- Include an annual AFIT update
- Expand coverage of awards and recognition
- Have a directory of BCEs and SVs
- Include more updates on key personnel
- Include more interviews with key personnel
- Eliminate CESMATtips
- Have shorter articles
- Eliminate special features
- Include special sections devoted to specific areas; e.g.,
food services and real property
- Discuss problem areas as well as successes
- Have a services update
- Include human interest items
- Cover civilian job opportunities
- Focus on base level issues
- Have more personal experience articles
- Have fewer personal experience articles
- Have equipment updates for both Civil Engineering and
Services

Suggested Topic Areas for Feature Articles

- Major construction projects; e.g., GLCM and shuttle support
- Overseas work and assignments
- Real property management
- A series on BCEs and SVs
- Billeting management
- Quality of life improvements
- Facility and land use planning
- Basic design
- MFH issues
- IG teams and issues
- Services issues
- Technical support in wartime
- R&D efforts
- Articles on contracting out and A76 procedures
- Legal limitations on Civil Engineering
- QAE functions
- History of Air Force Civil Engineering
- Fire protection
- More policy articles by senior managers
- Biographic articles on key personnel
- Cross feed with the civilian facility support and services community
- Interior design
- Future trends

- Construction management
- Contract programming guidance
- Vehicle management

Other Comments

- It is sometimes difficult to separate the trash from the substance
- Reads like a regulation
- Consider breaking the Quarterly into separate news letters for engineering and services
- Compliments

Suggested Cosmetic Changes

- Add color
- Add cartoons
- Improve cover graphics
- Include more photos
- Enhance general appearance
- Have less art and graphics
- Have color photos
- Change format to make it easier to read
- Add reminders to "pass it on"

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This research surveyed the intended audience of the Air Force Engineering and Services Quarterly for two purposes: (1) to validate the results of the in-house survey conducted semi-annually by the Quarterly, and (2) to determine ways to improve the quality and timeliness of the Quarterly. The results of the 843 returned surveys were analyzed using standard statistical procedures and compared to the results of the Fall 1984 in-house survey. The analysis indicated that although the two surveys measured slightly different populations, the management information produced by both surveys was similar. The research also generated over 70 suggestions for ways to improve the Quarterly. These suggestions were evaluated for feasibility and subsequently recommended changes in departments, article content, and distribution.

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